



Free-Standing Mathematics Qualification **Mathematics**

4984 Financial Calculations
Mark scheme

4984
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Version 1.0: Final Mark Scheme

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

Key to mark scheme abbreviations

M	mark is for method
m or dM	mark is dependent on one or more M marks and is for method
A	mark is dependent on M or m marks and is for accuracy
B	mark is independent of M or m marks and is for method and accuracy
E	mark is for explanation
✓ or ft or F	follow through from previous incorrect result
CAO	correct answer only
CSO	correct solution only
AWFW	anything which falls within
AWRT	anything which rounds to
ACF	any correct form
AG	answer given
SC	special case
oe	or equivalent
A2,1	2 or 1 (or 0) accuracy marks
-x EE	deduct x marks for each error
NMS	no method shown
PI	possibly implied
SCA	substantially correct approach
c	candidate
sf	significant figure(s)
dp	decimal place(s)

No Method Shown

Where the question specifically requires a particular method to be used, we must usually see evidence of use of this method for any marks to be awarded.

Where the answer can be reasonably obtained without showing working and it is very unlikely that the correct answer can be obtained by using an incorrect method, we must award **full marks**. However, the obvious penalty to candidates showing no working is that incorrect answers, however close, earn **no marks**.

Where a question asks the candidate to state or write down a result, no method need be shown for full marks.

Where the permitted calculator has functions which reasonably allow the solution of the question directly, the correct answer without working earns **full marks**, unless it is given to less than the degree of accuracy accepted in the mark scheme, when it gains **no marks**.

Otherwise we require evidence of a correct method for any marks to be awarded.

Question	Solution	Mark	Total	Comment
1(a)	Number of pairs sold at £24 is $\frac{2}{3} \times 510$		5	
	= 340	B1		
	Money from selling these is $340 \times £24$			
	= £8160	M1		Their 340×24
	Reduced price jeans is $80 \times £15$ = £1200	B1		
	Total raised is $£8160 + 1200 + 500$	M1		M1 for 3 items, 500 and one other correct
	= £9860	A1		CAO
1(b)	Profit is £4260	B1ft	3	from a [their a – 5600]
	Percentage profit is $\frac{4260}{5600} \times 100$	M1		$\frac{\text{their } 4260}{5600} \times 100$
	= 76.07..	A1ft		
	= 76.1%			76% not accepted for final A mark unless 76.07... or 76.1 seen
	Total		8	

Question	Solution	Mark	Total	Comment
2(a)	Cost for both is €64	B1	3	
	Service charge is $\frac{15}{100} \times €64$	M1		M1 $\frac{15}{100} \times €32$ or €4.80 Needs doubling for B1 €36.80 is M1 B0 A1
	= €9.60			
	Total cost is €73.60	A1		€73.6 is accepted M1A1 36.80
2(b)	€84 is 112% of cost of dinner	B1	3	Only if used correctly
	Service charge is $€ \frac{84}{112} \times 12$	M1		or for $€ \frac{84}{1.12} = 75$
	= €9	A1		CAO If for one person £4.50 SC2
2(c)	Cost is $£ \frac{180}{1.28}$	M1	3	
	= £140.625	A1		
	= £140.62 or £140.63	A1		NB $\frac{1}{1.28} = 0.78125$ $0.78125 \times 180 = 140.625$ gains full marks but use of this with 0.78×180 gains M1 only
	Total		9	

Question	Solution	Mark	Total	Comment	
3(a)		A	B	C	D
	1	Pack	Recommended retail price (£)	Sale price (£)	Sale price as a percentage of recommended retail price
	2	Mr. Men & Little Miss All New Story Collection	104	25	24
	3	Diary of a Wimpy Kid Collection	47.99	8.99	19
	4	Alice Thomas Ellis Set	22.99	4.99	22
	5	The Top Gear Guide To Britain	14.99	3.99	27
		Any percentage	M1	4	Any use of $\frac{\text{sale or discount}}{\text{retail}} \times 100$ Eg:0.24,0.19,0.22,0.27 gains no marks
		Any percentage correct	A1		
		All correct	A1		
		All correct and to the nearest integer	A1		
			Percentages are 24.038;18.733;21.705;26.618 These answers are M1,A1,A1;A0		
3(b)	Maximum price of each book is £12.49	B1	2	No mark for just £12.50	
	Total is £37.47	B1		SC1 for £37.50	
3(c)	26 is $\frac{2}{7}$ of total stock		3		
	13 or $\frac{26}{2}$	M1			
	13×7	M1dep		Or M1 for 182 M1 for $\frac{182}{2}$	
	which is 91	A1			
	Total		9		

Question	Solution	Mark	Total	Comment
4(a)	£204.73	B1	1	
4(b)	Total repayments = £204.73 × 24	M1	3	M1 for 24 × their 204.73 [must be one listed]
	= £4913.52	A1		
	Interest is £4913.52 – 4000			
	= £913.52	A1		CAO
4(c)	Percentage is $\frac{913.52}{4000} \times 100$	M1ft	2	Must be 4000
	= 22.838 %	A1		ft from b 23 not accepted unless 22.8..seen
	= 22.8 %			
	Total		6	

Question	Solution	Mark	Total	Comment
5(a)	Annual income is 12 × £4629		3	Accept working for (a) or (b) in wrong part
	= £55 548	B1		
	Taxable income = their £55 548 – 10 600	M1ft		Must have been 12 × something
	= £44 948	A1ft		
5(b)	Tax at 20% is $£31\,785 \times \frac{20}{100}$	M1	5	
	= £6357	A1		
	Amount taxed at 40% is £44 948 – 31 785	M1		Their (a) – 31 785
	= £13 163			Implies gained M1
	Tax paid at 40% is £5265.20	A1		ft from a
	Tax paid is £11 622.20	A1		Full ft from a Do not accept £11 622.2
	Total		8	

Question	Solution	Mark	Total	Comment
6	NI is levied on £397 – £155	M1	4	
	= £242	A1		
	NI charged is $£242 \times \frac{12}{100}$	M1 Dep on M1		
	= £29.04	A1		Eg $£397 \times \frac{12}{100}$ [47.64]etc is no marks
	Total		4	
Question	Solution	Mark	Total	Comment
7	Original price is 165% of cost price	B1	3	
	Sale price is $\frac{2}{3} \times 165\%$	M1		
	which is 110%			
	Profit is now 10%	A1		Or
				If initial price is [eg] £100 Usual selling price is £165
				Price in sale is £165 – £55
				= £110
				Profit is 10%
	Total		3	

Question	Solution	Mark	Total	Comment
8	$P = £4500 \times 1.0026^{12 \times 1}$	M1	3	M1 is dependent on 12×1 not becoming anything other than 12
	= £4500 × 1.03165..	A1		
	= £4642.425...			
	= £4642.42 or £4642.43	A1		
	Total		3	
	TOTAL		50	